

REMARKS

Claims 1 – 22 have been examined. Claims 1 – 8 and 10 stand rejected under 35 U.S.C. §102(b) as anticipated by U.S. Pat. No. 4,590,091 (“Rogers”); Claim 9 stands rejected under 35 U.S.C. §103(a) as unpatentable over Rogers in view of U.S. Pat. Publ. No. 2003/0139035 (“Yim”); Claims 11 and 13 – 20 stand rejected under 35 U.S.C. §103(a) as unpatentable over Rogers in view of U.S. Pat. Publ. No. 2004/0241341 (“Lin”); and Claims 12, 21, and 22 have been identified as allowable except for their dependence from rejected base claims.

Independent Claims 1 and 17 have been amended to clarify that the plasma(s) recited in the claims are ionic (*see, e.g.*, Application, p. 4, l. 12). The scope of the claims is unchanged by these amendments since they have only made explicit what was previously implicit.

The claims are respectfully believed to be patentable because Rogers does not teach or suggest the claim limitation of “generating an ionic plasma from a treatment gas” to treat a germanium substrate. The treatment mechanism taught by Rogers is different from, and incompatible with, an ionic plasma treatment. Rogers teaches the use of radiation dissociation of a hydrogen precursor “to form *neutral* hydrogen species which interact with the native oxide layer to produce a chemically reduced form of the oxide” (Rogers, Col. 2, ll. 64 – 67, emphasis added). *See* Rogers, Col. 3, ll. 46 – 47 defining “neutral” as designating “a species which has no electric charge associated with it.” For instance, a specific mechanism for forming the neutral hydrogen species in Rogers is mercury-sensitized photolysis of molecular hydrogen (*id.*, Col. 3, ll. 18 – 67).

These mechanisms are completely unlike the generation of an ionic plasma, which includes *charged* species. Since Rogers fails to teach one of the limitations of each of the independent claims, they are believed to be patentable, and the dependent claims are believed to be patentable by virtue of their dependence from patentable claims. While not directly relevant to the §102 rejections, it is additionally noted that in addition to failing to teach or suggest ionic


plasma generation, Rogers teaches away from such generation by identifying a "need ... for a low-temperature, *charge-free* process for minimizing the native oxide layer" (*id.*, Col. 2, ll. 9 – 10, emphasis added), based on the results of methods using charged species on certain *compound* semiconductor substrates.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,


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